Applied Environmental Sciences

Facilities

New laboratory facilities allow carefully controlled, laboratory-oriented experiments in environmental microbiology, chemistry, and engineering. With these state-of-the-art facilities, field-scale remediation projects can also be monitored.

Recent Successes

AFIT researchers were among the first to examine the biodegradability of tolyltriazole, an aircraft deicing fluid additive used as a corrosion inhibitor and recently recognized as a groundwater contaminant of concern at airfields throughout the nation. Research has shown that tolyltriazole may inhibit degradation of other deicer components in the environment. Another active research area is contaminant sorption and desorption from soil particles. Since the desorption rate may directly affect the efficiency of groundwater cleanup, faculty and students have been actively evaluating the factors controlling this critical parameter. AFIT researchers also conducted a bioremediation technology field demonstration (shown below) to show that trichloroethylene (TCE), the most common groundwater contaminant at DoD installations, could be destroyed without bringing contaminated groundwater to the surface.

Contacts

Dr Charles A. Bleckmann

Associate Professor of Engineering and Environmental Management

PhD, Botany, University of Arizona
Tel: (937) 255-3636 x4721 (DSN 785-3636)
Email: Charles.Bleckmann@afit.af.edu

Research Interests:

- Wastewater analyses and treatment
- Hazardous waste identification and mgmt
- Land treatment of wastes
- Groundwater monitoring and remediation
- Biodegradation
- Environmental compliance audits
- Bioassays

Dr Mark N. Goltz

Professor of Engineering and Environmental Management

PhD, Environmental Engineering and Science, Stanford University
Tel: (937) 255-3636 x4638 (DSN 785-3636)
Email: Mark.Goltz@afit.edu

Research Interests:

- Hazardous waste site remediation
- Fate and transport of organic contaminants in the subsurface
- Groundwater remediation technologies